Computer Aided Parametric Estimating (CAPE} Software Plan (Revised)
(October 1, 1998 – September 30, 1998)

Purpose: To assess and compare the ability of the two leading commercial cost estimating software packages (PRICE-II and SEER-H) to yield realistic estimates for military and commercial hardware items (especially spare parts for major weapon systems) that DCMC prices for Military Services.

Background: The underlying premise is that with this software, independent government estimates (IGE) can be developed quickly with little or no contractor-furnished information. These IGEs can then be used for price analysis and negotiation.

Besides facilitating compliance with Government pricing policy, specifically the FAR 15.402 pricing information "order of preference," this cost estimating approach could also help DCMC deal with some major current pricing issues:

- Spare Parts Pricing

Contractor overpricing of spare parts has been a recurring issue since the early 1980s. Despite DoD-wide emphasis on preventing overpricing, instances still occasionally occur where contractors propose, and Government buyers accept, excessive prices for spare parts orders. Often, when investigated, the reason cited by buyers involved is that a "risk-benefit" trade-off decision was made between spending more time working on large dollar value contract actions or smaller, often routine spare parts orders. The buyers did not have time to do justice to both efforts, so they dedicated themselves to the larger jobs. As workforce reductions continue, these trade-off decisions will become more prevalent, and the risk of being overcharged for spare parts will increase. A tool that would allow us to quickly generate reliable IGEs would obviously be of immense benefit in this area.

- Commercial Item Acquisition

The Federal Acquisition Streamlining Act affirmed the Federal Government's preference for commercial and non-developmental items. It also expanded the definition of a commercial item allowing contractors to designate more and more of their products as "commercial," and, together with the Clinger-Cohen Act, limited the type of pricing information, the Government can obtain for these items. In the vast majority of cases, price analysis is really the only method available for determining whether the proposed prices are reasonable. A common problem is finding a comparable historic, competitive, or estimated price (such as a valid IGE) to use for price analysis.

- Price-Based Contracting

There is growing sentiment by Government decision makers that acquisitions should be price-based, i.e., the Government should not, at any time during the acquisition process, intrude into contractor's internal cost information. The ramifications of such a policy would obviously be substantial. The capability to develop Independent Government Estimates would give us a way to ensure price reasonableness in such an environment.

For six months ending June 30, 1998, a preliminary evaluation of the PRICE-H and SEER-H software was conducted by seven DCMC offices, where cost estimates were developed for 37 items. This evaluation was not sufficient enough to make a determination as to whether the software can effectively price spares, and if one brand (PRICE-H or SEER-H) is better than the other. During the course of this project, we expect each selected CAO to fully utilize the software, as user input will be invaluable in helping us determine which cost estimating software will be the best for us to utilize in the future. We foresee the use of parametric cost estimating software as the primary tool we will be using in the future to develop Independent Government Estimates as we move to Price-based Contracting. Thus, it is imperative that CAOs make full use and a complete evaluation of the software so we can be assured we will be making the correct decision should we procure cost estimating software for use at CAOs throughout DCMC.

Project participants: The following ten contract administration offices (CAOs) have been selected to participate in the use of the software (5 using PRICE-H , and the other 5 using SEER-H) from completion of vendor training in November 1998 through September 30, 1999. The CAOs selected to participate will have large numbers of ACO negotiations for spare parts.

PRICE-H	**SEER-H**
DCMC Boeing Helicopters	DCMC Boeing Seattle
DCMC Chicago Rockford	DCMC Boeing St. Louis
DCMC Pratt & Whitney East Hartford	DCMC Northrop Grumman Hawthorne
DCMC Raytheon	DCMC Raytheon Tucson
DCMC Syracuse	DCMC Twin Cities

In the PRICE-H/SEER-H test which was completed at the end of June 1998, the use of the software was primarily limited to one individual from each CAO attending the training and conducting the test. During the conduct of this project, we want the development of cost estimates to be a team effort. At least two individuals from each CAO should attend the training and participate in the test. One of the two participants must be a person with a technical background, for example, a Quality Assurance Specialist, Industrial Specialist, or an Engineer.

The software uses complex multivariate regression models to estimate the cost of an item. Input to the models requires knowledge of the physical and functional characteristics of the item and the manufacturing operations involved in producing it. The models can be calibrated to reflect the manufacturer's particular capabilities, skills, efficiencies, and cost structure.

Vendor Training: All participants have been trained. Requests for additional training should be forwarded to the HQ project sponsor.

Project Period: The software will be used to develop IGEs for price analysis in support of ACO negotiations. The idea is to compare the estimate developed with the software with the proposed, negotiated and actual costs to determine the accuracy of the price

developed with the software. In the event that actuals cannot be obtained, an alternative plan shall be developed for testing software accuracy. Alternate plans will be approved by the District Point of Contact (POC) and HQ Project Sponsor.

We need to use the software as much as possible. It will be used to develop an IGE for a minimum of twenty parts during the last two months of the test period. Again, if this becomes impractical, the CAO will notify the HQ project sponsor, an alternate plan must be developed and approved.

Monthly Results Reporting: Status reports are due to HQ DCMC-OA by the 15th of each month. Each monthly report will be sent by e-mail to the District POC and HQ project sponsor using a Microsoft Excel spreadsheet in the same format as the attached example. A brief summary of the problems encountered should also be provided along with an explanation of any cases where the software estimate varies from actuals by more than 10%.

In October 1999, we will be asking for a final report that will provide feedback on the following aspects of the software:

- Is it quicker than other methods of developing pre-negotiation objectives?
- Could it be used as the sole basis for spares pricing or is its value mainly as a check against gross overpricing? Were there any incidents of gross overpricing identified using the software that would probably have otherwise gone undetected?
- Is the software user friendly? Could we use a 'train-the-trainer' approach or do we definitely need vendor training for every user? Is training beyond that provided by the vendor required?

HQ Visits: During September, the HQ Project Sponsor will visit each participating CAO to coordinate findings.

Decision to Proceed after Project Plan: The software needs to pay for itself. The costs associated with fielding this software are pretty easy to compute. Cost savings/avoidances are likewise quantifiable (see "Monthly Results Reporting" above). Other benefits obtained from using the software (e.g., avoiding the adverse publicity associated with overpriced purchases, reduced negotiation cycle time) will also be considered qualitatively in the cost-benefit analysis.

HQ Project Sponsor: HQ DCMC, Cost and Pricing Group, Dave Mabee, (703) 767-8484, e-mail: dave mabee@hq.dla.mil

District Sponsors:
DCMD East: Mr. Richard Rydberg, (617) 753-4211, e-mail: rrydberg@dcmde.dla.mil
DCMD West: Mr. Ben Aban, (3 10) 900-6544, email: baban@whq.dcmdw.dla.mil

Attachment 2

CAPE PROJECT RESULTS 0ɜ0ɜ3 ɔ999 - **SEPTEMBER** ƎO, ɔ999

Item Nomenclature	Contractor Proposed Price	Estimated Software Price	Prenegotiation Position	Basis for Prenegotiation Position*	Amount Negotiated	Actual Cost (if avaialable) plus typical profit**
Sample One	$26,565	$16,000	$16,000	Software	$23,808	$14,786
Sample Two	$24,000	$22,000	$23,500	Prior Prices	$23,500	$22,750
Totals	$50,565	$38,000	$39,500		$47,308	$37,536

· Basis for prenegotiation objective, e-g-, prior prices, actual costs, bottoms-up cost estimate, if not the software-generated estimate.

****To make data comparable.**